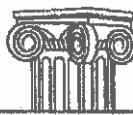


17SL-CC00078



Stephen L. Kling, Jr.  
Email: skling@jenkinskling.com

JENKINS & KLING, P.C.  
ATTORNEYS AT LAW

Admitted to Practice in  
Missouri

October 18, 2016

Board of Adjustment  
City of Kirkwood  
139 South Kirkwood Road  
Kirkwood, Missouri 63122

RE: *St. John Vianney High School Variance Request Submitted October 6, 2016*

Dear Members of the Board of Adjustment:

This firm and the undersigned represent St. John Vianney High School. Enclosed herein please find twelve (12) copies of a revised lighting plan to be substituted for the previously submitted lighting plan. After significant analysis and study, Musco Lighting has designed a new plan that is far superior to the prior plan and has enough illumination to be used in accordance with applicable guidelines and regulations. Some features of the new plan are:

1. Only 56 of the 66 lights will be needed to be on at one time;
2. There are only 3 properties which are impacted by more than 0.1 footcandles at the property lines;
3. Vianney is advised that 2 of the 3 affected property owners do not object to the lights and Vianney anticipates providing confirmation at the hearing in connection with their presentation of evidence;
4. The impact levels for the 3 properties have all been reduced dramatically so that now the highest reading of the 3 properties is .2, .9, and 1.3, respectively, and in most cases that highest number affects only a portion of the property line.

Please substitute this new plan as mentioned above and advise of the anticipated hearing date on Vianney's variance request at your earliest convenience.

Sincerely,

JENKINS & KLING, P.C.

By:

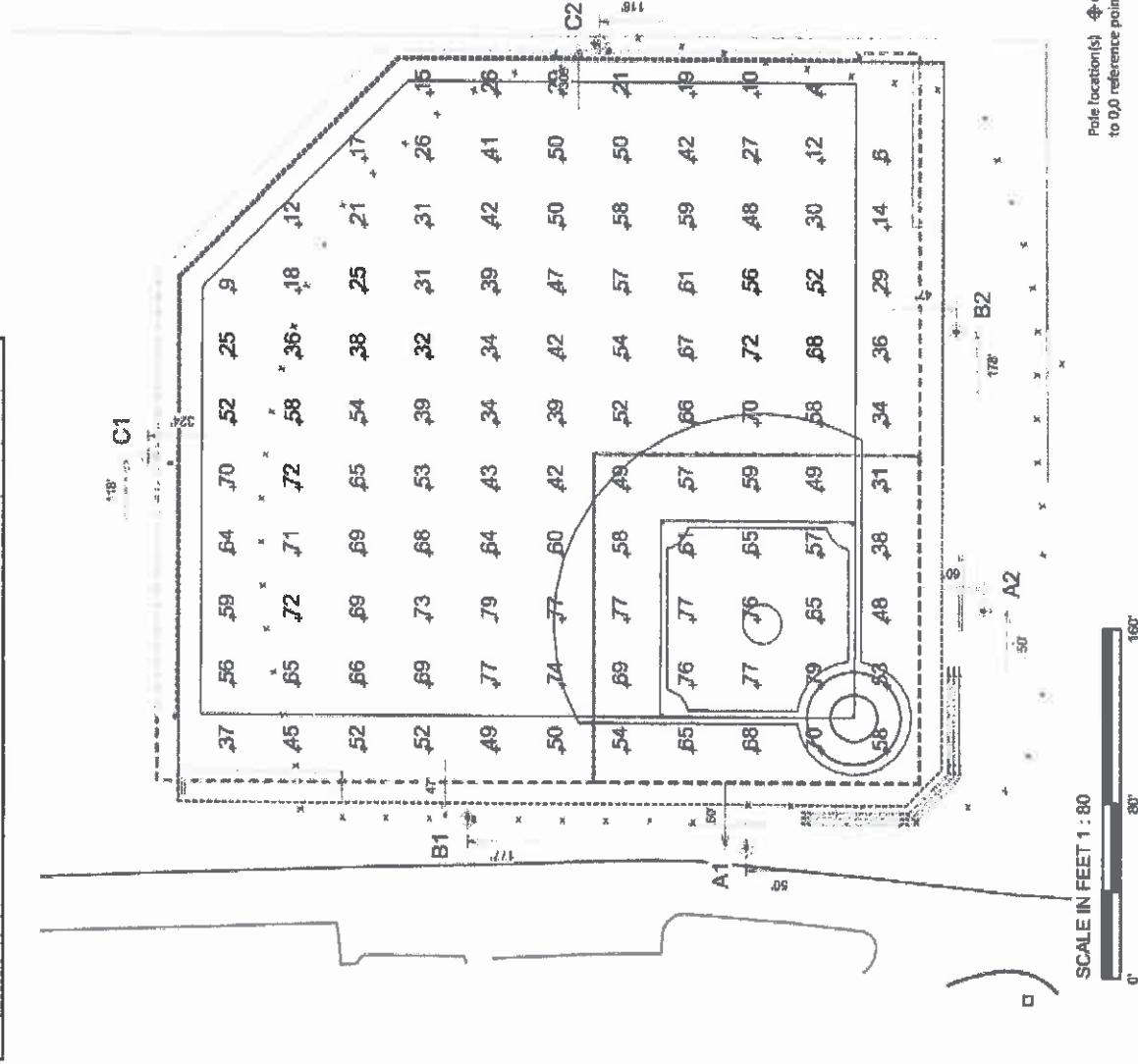
  
Stephen L. Kling, Jr.

SLK/ec  
Enclosures

cc w/enc: John M. Hessel, Esq.

**EXHIBIT "13"**

EQUIPMENT LIST FOR AREAS SHOWN									
QTY	POLE	LOCATION	SIZE	GRADE	HEAVING ELEVATION	Luminaires		OTHER	SUNS
						TYPE	QTY / LINE	END	
2	A1-A2	B1	70'	4'	74'	1500W MZ	7	7	0
1	B2	C1	80'	-	84'	1500W MZ	16	13	3
1	C1	C2	70'	-	80'	1500W MZ	16	12	4
1	C2	TOTALS	70'	-	70'	1500W MZ	10	9	1
6							66	56	10



<b>MY PROJECT</b>	Name: Saint John Vianney High School Baseball Location: Saint Louis, MO
<b>GRID SUMMARY</b>	<b>Name:</b> Baseball <b>Size:</b> Irregular 320' / 370' / 304' <b>Spacing:</b> 30.0' x 30.0' <b>Height:</b> 3.0' above grade
<b>CONSTANT ILLUMINATION</b>	<b>Infield</b> <b>Outfield</b> <b>Guaranteed Average:</b> 60 40 <b>Scan Average:</b> 61.4 46.1 <b>Maximum:</b> 79 79 <b>Minimum:</b> 31 4 <b>Avg / Min:</b> 1.99 10.53 <b>Max / Min:</b> 2.56 17.95 <b>UG (adjacent pts):</b> 1.58 2.74 <b>CU:</b> 0.68 <b>No. of Points:</b> 25 89
<b>Luminaire Type:</b> Green Generation <b>Design Usage Hours:</b> 5,000 hours <b>Design Lumens:</b> 134,000 <b>Avg Lamp Tilt Factor:</b> 1.000 <b>No. of Luminaires:</b> 56 <b>Avg KW:</b> 87.58 (95.2 max)	
<b>Guaranteed Performance:</b> The Guaranteed Average CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system. <b>Field Measurements:</b> Illumination measured in accordance withIESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details. <b>Electrical System Requirements:</b> Refer to Ampairage Draw Chart and/or the "Musco Control System Summary" for electrical sizing. <b>Installation Requirements:</b> Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.	
<b>ENGINEERED DESIGN</b> <b>By:</b> Justin Van Soelen <b>Date:</b> 1/18/12-Dprod-spjrl1 12-Oct-16 <small>Not to be reprinted in whole or part without the written consent of Musco Sports Lighting, LLC. © 1991, 2016 Musco Sports Lighting, LLC.</small>	

ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN									
Pole	Location	Size	Config.	Quantity	Height	Luminaires	Qty	Loop	Time
2	A1-A2	70'	4'	1	74'	1500W MZ	7	7	0
1	B1	80'	4'	1	84'	1500W MZ	16	13	3
1	B2	80'	-	1	80'	1500W MZ	16	12	4
1	C1	70'	-	1	70'	1500W MZ	10	9	1
1	C2	70'	-	1	70'	1500W MZ	10	8	2
6	TOTALS						66	56	10



## MY PROJECT

Name: Saint John Vianney High School Baseball  
Location: Saint Louis, MO

## GRID SUMMARY

Name: Property Line  
Spacing: 30.0'  
Height: 4.9' above grade

## CONSTANT ILLUMINATION

ENTIRE GRID	
Scan Average:	0.252
Maximum:	1.35
Minimum:	0.01
No. of Points:	53

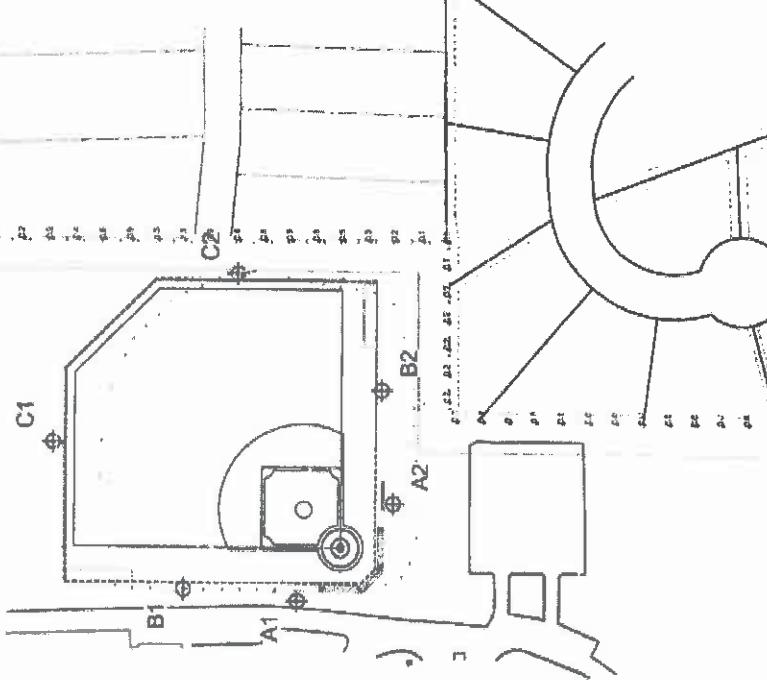
Luminaire Type: Green Generation  
Design Usage Hours: 5,000 hours  
Design Lumens: 134,000  
Avg Lamp Tilt Factor: 1.000  
Nb. of Luminaires: 56  
Avg KW: 87.58 (95.2 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance withIESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.



SCALE IN FEET 1:200  
200' 400'

Pole location(s) & dimensions are relative  
to 0.0 reference point(s) ☒

ENGINEERED DESIGN  
By: Justin Van Soelen  
File # / Date: 171842-D-prod-spkr1  
12-Oct-16

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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN									
Part #	Qty	Location	Size	Grade	Elevating	Luminaire	Qty/ Pole	TES	Other
QTY	LOCATION	SIZE	GRADE	ELEVATING	HEIGHT	LAMP TYPE	POLE GRID	GRD	OTHER
2	A1-A2	70'	4'		74'	1500W MZ	7	7	C
1	B1	80'	4'		84'	1500W MZ	16	13	3
1	B2	80'	-		80'	1500W MZ	16	12	4
1	C1	70'	-		76'	1500W MZ	10	9	1
1	C2	70'	-		70'	1500W MZ	10	8	2
6							66	56	10
									TOTALS

MY PROJECT									
Name:	Saint John Vianney High School Baseball								
Location:	Saint Louis, MO								

GRID SUMMARY									
Name:	Parcel 1								
Spacing:	30.0'								
Height:	1.6' above grade								

CONSTANT ILLUMINATION									
Scan Average:	0.098								
Maximum:	0.07								
Minimum:	0.02								
No. of Points:	21								

\$1,718,240.00

100% 200% 300% 400%

Luminaires Type: Green Generation

Design Usage Hours: 5,000 hours

Design Lumens: 134,000

Avg Lamp Tilt Factor: 1.000

No. of Luminaires: 56

Avg KN: 87.58 (95.2 max)

**Guaranteed Performance: THE CONSTANT ILLUMINATION**  
described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance withIESNA RP-6-15 and CIBSE LG4. Individual values may vary.  
See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

**ENGINEERED DESIGN**  
 By: Martin Van Soelen  
 File # / Date: 1718&2-D-prod-spillR1 12-Oct-16  
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**ILLUMINATION SUMMARY**

Point location(s): dimensions are relative to G0 reference point(s)

SCALE IN FEET 1 : 200

0' 200' 400'

EQUIPMENT LIST FOR AREAS SHOWN									
POLE	LOCATION	SIZE	GRADE	ELEVATION	LUMINAIRES	CITY/T	TIES	OTHER	
ORY						POLE	GRID	GRIDS	
2	A1-A2	70'	4'	74'	1500W MZ	7	7	0	
1	B1	80'	4'	84'	1500W MZ	16	13	3	
1	B2	80'	-	80'	1500W MZ	16	12	4	
1	C1	70'	-	70'	1500W MZ	10	9	1	
1	C2	70'	-	70'	1500W MZ	10	8	2	
6	TOTALS					66	56	10	

**MUSCO** Lighting

**MY PROJECT**

Name: Saint John Vianney High School - Baseball  
Location: Saint Louis, MO

**GRID SUMMARY**

Name: Parcel 2  
Spacing: 30.0'  
Height: 2.2' above grade

**CONSTANT ILLUMINATION**

Scan Average:	0.057	Entire Grid
Maximum:	0.13	
Minimum:	0.02	
No. of Points:	22	

Luminaires Type: Green Generation

Design Usage Hours: 5,000 hours

Design Lumens: 134,000

Avg Lamp Tilt Factor: 1.000

No. of Luminaires: 56

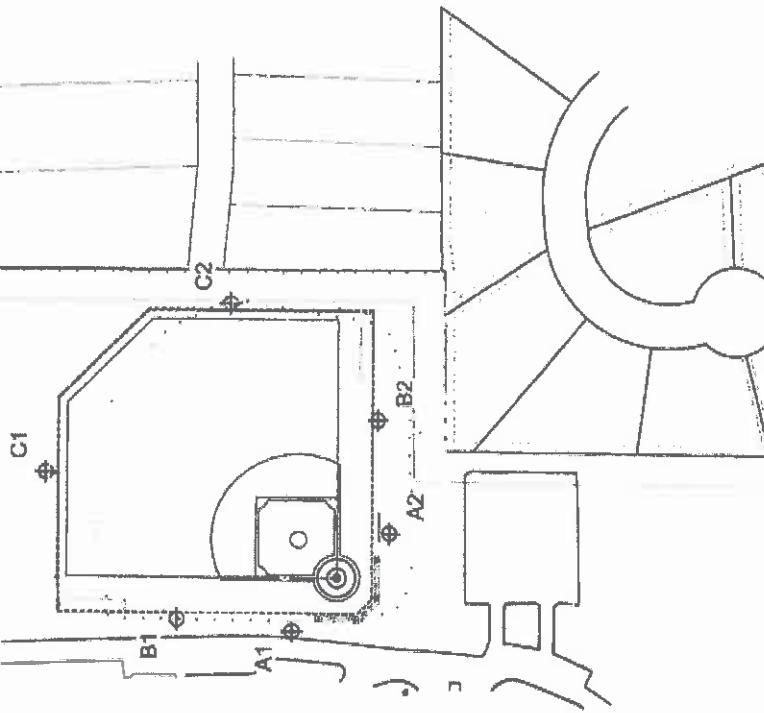
Avg KW: 87.58 (95.2 maz)

**Guaranteed Performance: The CONSTANT ILLUMINATION**  
described above is guaranteed for the design  
usage hours of the system.

**Field Measurements:** Illumination measured in accordance with  
IESNA RP-6-15 and CIBSE UG4. Individual values may vary.  
See the Warranty document for details.

**Electrical System Requirements:** Refer to Amperage  
Draw Chart and/or the "Musco Control System Summary"  
for electrical sizing.

**Installation Requirements:** Results assume +/- 3%  
nominal voltage at line side of the ballast and structures  
located within 3 feet (1m) of design locations.



SCALE IN FEET 1 : 200

0 200' 400'

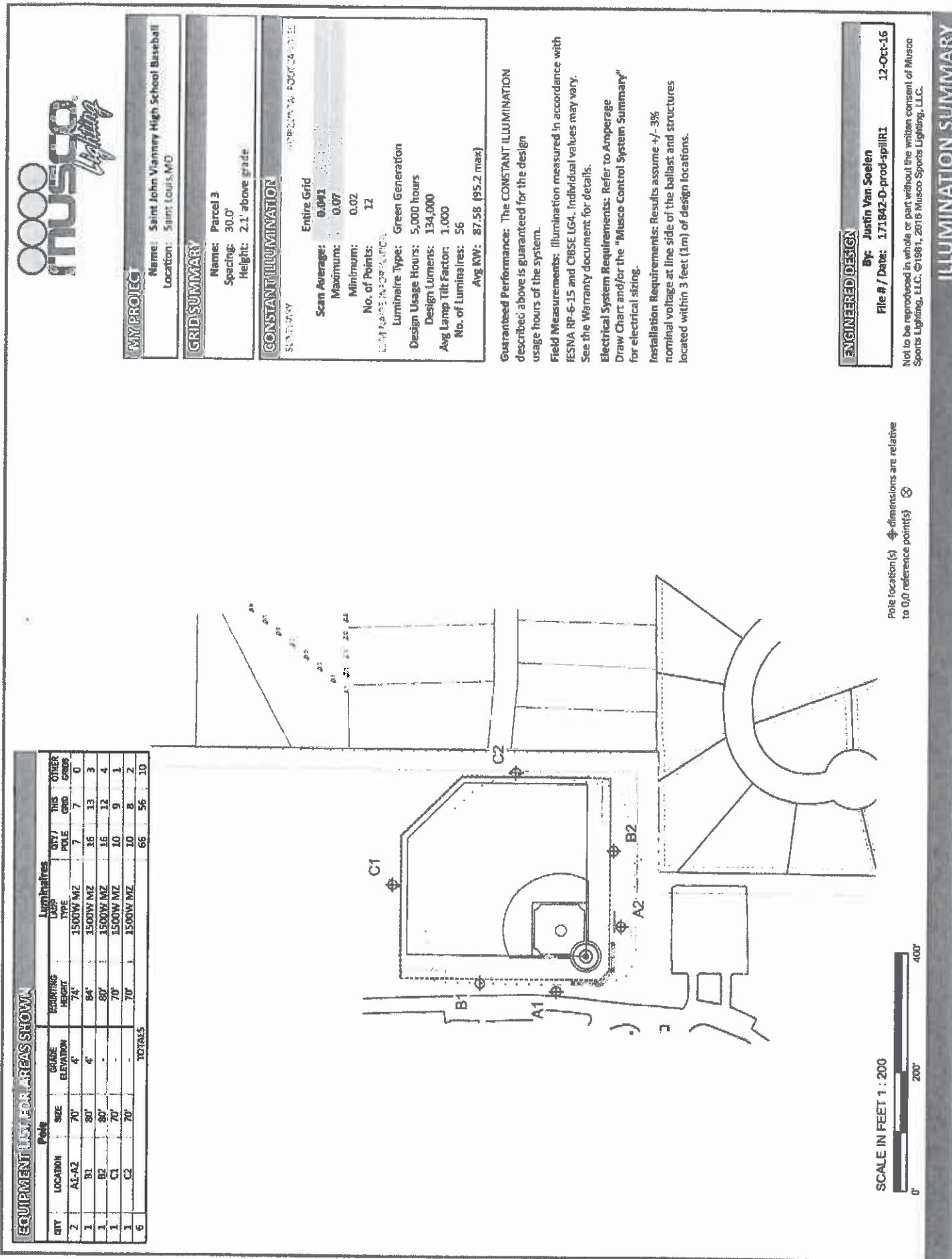
Pole location(s) & dimensions are relative  
to O.D. reference point(s)

**ENGINEERED DESIGN**

By: Justin Van Soelen  
File # / Date: 171842-D-prod-spjR1 12-Oct-16

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**ILLUMINATION SUMMARY**



**ILLUMINATION SUMMARY**

**MY PROJECT 1**

Name:	Saint John Vianney High School Baseball
Location:	Saint Louis, MO

**GRID SUMMARY**

Name:	Parcel 4
Spacing:	30.0'
Height:	2.8' above grade

**CONSTANT ILLUMINATION**

Entire Grid

Scan Average:	0.421
Maximum:	1.40
Minimum:	0.06
No. of Points:	15

Luminaire Type: Green Generation

Design Usage Hours: 5,000 hours

Design Lumens: 124,000

Ave Lamp Tilt Factor: 1.0000

No. of Luminaires: 56

Avg KW: 87.58 (95.2 max)

**Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.**

**Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE LC4. Individual values may vary. See the Warranty document for details.**

**Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.**

**Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.**

**ENGINEERED DESIGN**

By: Justin Van Soelen  
File # / Date: 171842-D-prod-spjRI 12-Oct-16

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Pole location(s) & dimensions are relative to 0.0 reference point(s) ☺

**EQUIPMENT LIST FOR AREA SHOWN**

Pole	Qty	Location	Size	Grade Elevation	Mounting Height	Luminaire Qty	Type	Ballast Type	Other	Grid	Grids
1	1	A1-A2	70'	4'	74'	1	1500W MZ	7	7	0	
1	1	B1	80'	4'	84'	1	1500W MZ	16	13	3	
1	1	B2	80'	-	80'	1	1500W MZ	16	22	4	
1	1	C1	70'	-	70'	1	1500W MZ	10	9	1	
1	1	C2	70'	-	70'	1	1500W MZ	10	8	2	
	6	TOTALS				66	56				

**SCALE IN FEET 1 : 200**

**MUSCO**

**MY PROJECT** Name: Saint John Vianney High School Baseball  
Location: Saint Louis, MO

**GRID SUMMARY** Name: Parcels 5  
Spacing: 30.0'  
Height: 1.1' above grid

**CONSTANT ILLUMINATION**

Scanning Area:	Entire Grid
Scan Average:	0.072
Maximum:	0.10
Minimum:	0.04
No. of Points:	15

Luminaire Type: Green Generation  
Design Usage Hours: 5,000 hours  
Design Lumens: 134,000  
Avg Lamp Tilt Factor: 1.000  
No. of Luminaires: 56  
Avg KWM: 87.58 [95.2 max]

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance withIESNA RP-5-15 and CIESE LC4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

**ENGINEERED DESIGN**  
By: Justin Van Soelen  
File #: Date: 171342-D-prod-splitR1 12-Oct-16

**ILLUMINATION SUMMARY**

Pole location(s) dimensions are relative to O.D. reference point(s)

**EQUIPMENT LIST FOR AREAS SHOWN**

Post	Qty	Location	Size	Ground Elevation	Rebounding Height	Grid	Type	Grid	This Grid	Other Grids
	2	A1-A2	7'0"	4'	74"		1500W MZ	7	7	0
	1	B1	8'0"	4'	84"		1500W MZ	16	13	3
	1	B2	8'0"	-	80"		1500W MZ	16	12	4
	1	C1	7'0"	-	70"		1500W MZ	16	9	1
	1	C2	7'0"	-	70"		1500W MZ	10	8	2
	6	TOTALS						66	56	10

**Diagram Description:** A site plan showing a basketball court (Area C1), a building (Area C2), and a parking lot (Area B1). Pole locations A1, A2, B1, B2, and C1 are marked with circles. Reference points A1, A2, B1, B2, and C1 are marked with small circles. A scale bar indicates 200' and 400'. A north arrow is present.

**SCALE IN FEET 1 : 200**

EQUIPMENT LIST FOR AREAS SHOWN									
Pole	Qty	Location	Size	Gauge	Bounding Elevation	Luminaires	LAMP TYPE	QTY POLE	GRID GEODS
	2	A1-A2	70'	4"	74'	1500W MZ	7	7	0
	1	B1	80'	4"	84'	1500W MZ	16	13	3
	1	B2	80'	-	80'	1500W MZ	16	12	4
	1	C1	70'	-	70'	1500W MZ	10	9	1
	1	C2	70'	-	70'	1500W MZ	10	8	2
	6	TOTAL					66	56	10

CONSTANT ILLUMINATION									
Category	Panel	Name:	Panel 6	Spacing:	30.0'	Height:	11' above grade	CONSTANT ILLUMINATION	
								Total Points: 10	
								Scen Average: 0.042	
								Maximum: 0.05	
								Minimum: 0.03	
								No. of Points: 10	

LUMINAIRE TYPE: Green Generation									
Design Usage Hours:	5,000 hours								
Design Lumens:	134,000								
Avg Lamp Tilt Factor:	1.000								
No. of Luminaires:	56								
Avg KW:	87.58 (95.2 max)								

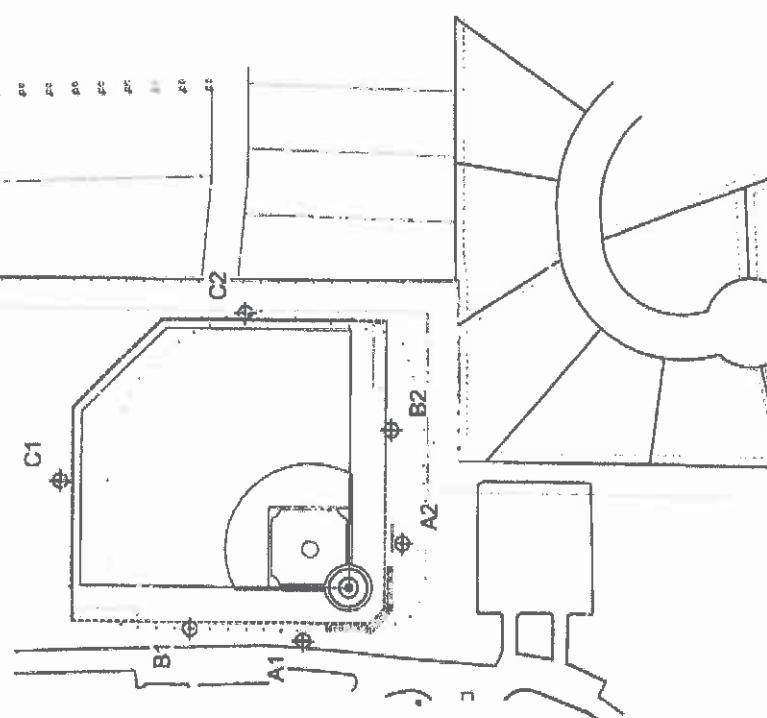
  

**Guaranteed Performance: The CONSTANT ILLUMINATION**  
described above is guaranteed for the design usage hours of the system.

**Field Measurements:** Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary.  
See the Warranty document for details.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume +/- 3% nominal voltage at line side of the ballast; and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 200

400'

200'

**ENGINEERED DESIGN**  
 By: Justin Van Soelen  
 File # / Date: 171842-D-prod-spair1  
 12-Oct-16

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**ILLUMINATION SUMMARY**

EQUIPMENT LIST FOR AREAS SHOWN									
POL	POLE	SIZE	BRIDGE	ADJUSTABLE	LUMINARIES	TYPE	CUT	THIS	OTHER
QTY	LOCATION		ELEVATION	HEIGHT			POLE	GRID	GRID
2	A1-A2	70'	4'	74'	1500W M2	M2	7	7	0
1	B1	80'	4'	84'	1500W M2	M2	16	13	3
1	B2	80'	-	86'	1500W M2	M2	16	12	4
1	C1	70'	-	76'	1500W M2	M2	10	9	1
1	C2	70'	-	70'	1500W M2	M2	10	8	2
6	<b>TOTALS</b>						66	56	10

**CONSTANT ILLUMINATION**

Scans available: 0.033  
Maximum: 0.04  
Minimum: 0.02  
No. of Points: 12

Luminaire Type: Green Generation  
Design Usage Hours: 5,000 hours  
Design Lumen: 134,000  
Avg Lamp Tilt Factor: 1.0000  
No. of Luminaires: 56

Avg KW: 87.58 (95.2 max)

**Guaranteed Performance:** The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

**Field Measurements:** Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet [1m] of design locations.

**ENGINEERED DESIGN**

By: Justin Van Soelen  
File # / Date: 171842-D-prod-spjR1 12-Oct-16

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**ILLUMINATION SUMMARY**

Scale in feet 1 : 200  
0' 200' 400'

EQUIPMENT LIST FOR AREAS SHOWN									
	Point	Location	Size	Gauge	Mounting Height	Mounting Elevation	Luminaires	Qty	Other
6	TOTALS						Loop	66	Grid
2	A1-A2	70'	4"	4"	74"	74"	MZ	7	Grid
1	B1	80'	-	4"	84"	84"	MZ	16	Grid
1	B2	80'	-	-	80"	80"	MZ	16	Grid
1	C1	70'	-	-	70"	70"	MZ	10	Grid
1	C2	70'	-	-	70"	70"	MZ	10	Grid
								56	Grid

**MY PROJECT**

Name: Saint John Vianney High School Basketball  
Location: Saint Louis, MO

**GRID SUMMARY**

Name: Parrot B  
Spacing: 30.0'  
Height: -0.4' above EL=slab

**CONSTANT ILLUMINATION**

Entire Grid  
Scan Average: 0.055  
Maximum: 0.07  
Minimum: 0.03  
No. of Points: 13

Luminaire Type: Green Generation  
Design Usage Hours: 5,000 hours  
Design Lumens: 134,000  
Avg Lamp Tilt Factor: 1.000  
No. of Luminaires: 56  
Avg KW: 87.58 (95.2 max)

**Guaranteed Performance:** The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

**Field Measurements:** Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

**ENGINEERED DESIGN**

By: Justin Van Soelen  
File # / Date: 171842-D-prod-spillRI 12-Oct-15

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**ILLUMINATION SUMMARY**

Pole location(s) dimensions are relative to 0.0 reference point(s).

SCALE IN FEET 1 : 200

EQUIPMENT LIST FOR AREAS SHOWN									
Pole	Qty	LOCATION	SIZE	GRADE	WOLSTENHOLME HEIGHT	LAMP TYPE	GTY POLE	RS	OTHER GND
A1-A2	2	70'	4"	-	74"	1500W MZ	7	7	0
B1	1	80'	4"	-	84"	1500W MZ	16	13	3
B2	1	80'	80"	-	80"	1500W MZ	16	13	4
C1	1	70'	-	-	70"	1500W MZ	10	9	1
C2	1	70'	-	-	70"	1500W MZ	10	8	2
<b>TOTALS</b>							<b>66</b>	<b>56</b>	<b>10</b>

<b>MY PROJECT</b>	Name: Saint John Vianney High School Baseball Location: Saint Louis, MO
<b>GRID SUMMARY</b>	Name: Parcel 9 Spacing: 30.0' Height: 0.4' above grade
<b>CONSTANT ILLUMINATION</b>	Scanning Area: Entire Grid Scan Average: 0.098 Maximum: 0.14 Minimum: 0.05 No. of Points: 13

**Guaranteed Performance: THE CONSTANT ILLUMINATION**  
described above is guaranteed for the design  
usage hours of the system.

**Field Measurements:** Illumination measured in accordance with  
IESNA RP-6-15 and CIBSE LG4. Individual values may vary.  
See the Warranty document for details.

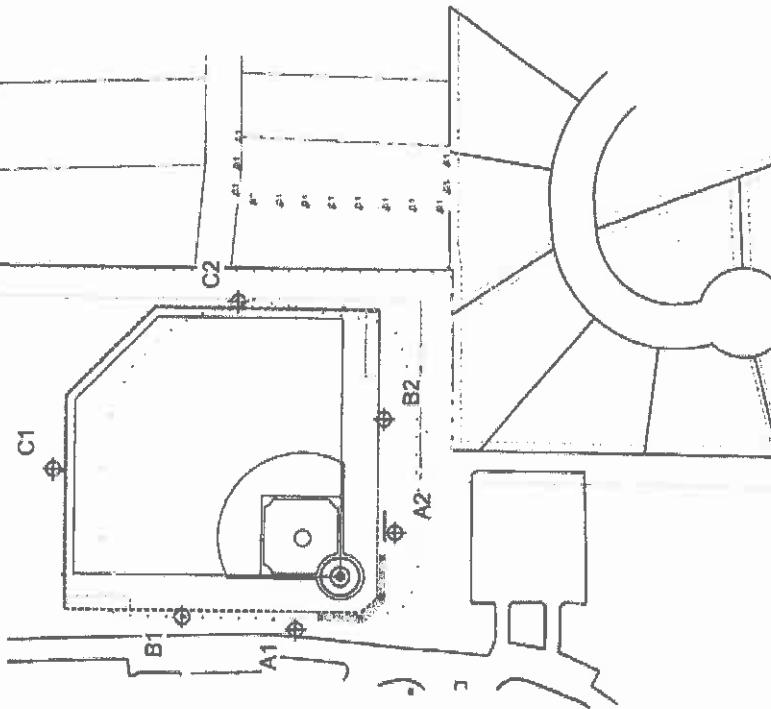
**Electrical System Requirements:** Refer to Amperage  
Draw Chart and/or the "Musco Control System Summary"  
for electrical sizing.

**Installation Requirements:** Results assume +/- 3%  
nominal voltage at the side of the ballast and structures  
located within 3 feet (1m) of design locations.

<b>ENGINEERED DESIGN</b>	By: Justin Van Soelen File # / Date: 171842-D-prod-spIR1 12-Oct-16
--------------------------	---

Pole location(s) & dimensions are relative  
to 1D reference point(s)

SCALE IN FEET 1 : 200



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**ILLUMINATION SUMMARY**

EQUIPMENT LIST FOR AREAS SHOWN						
Pole	Qty	Location	Size	Grade	Elevation	Luminaires
A1-A2	2	70'	70'	4'	74'	1500W MZ
B1	1	80'	80'	4'	84'	1500W MZ
B2	1	80'	80'	-	80'	1500W MZ
C1	1	70'	70'	-	70'	1500W MZ
C2	1	70'	70'	-	70'	1500W MZ
TOTALS	6					



**MY PROJECT**  
Name: Saint John Vianney High School Baseball  
Location: Saint Louis, MO

### GRID SUMMARY

Name:	Parcel 10
Spacing:	30.0'
Height:	0.4' above grade

### CONSTANT ILLUMINATION

Entire Grid
Scan Average: 0.426
Maximum: 0.92
Minimum: 0.08
No. of Points: 13

Luminaire Type: Green Generation  
 Design Usage Hours: 5,000 hours  
 Design Lumens: 124,000  
 Avg Lamp Tilt Factor: 1.000  
 No. of Luminaires: 56  
 Avg KW: 87.58 (95.2 max)

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

### ENGINEERED DESIGN

By: Justin Van Soelen  
 File # / Date: 171842-Dprod-spillRI  
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Pole location(s) dimensions are relative to QD reference point(s)  
 Scale in feet 1:200

200' 400'

### ILLUMINATION SUMMARY

EQUIPMENT LIST FOR ADDRESS SHOW							
POL.	POLE	LOCATION	SIZE	GAGE	WIRING	LUMINARIES	QUANTITY
2	A1-A2	70'	70'	4"	74'	1500W MZ	7
1	B1	80'	80'	4"	84'	1500W MZ	15
1	B2	80'	-	-	80'	1500W MZ	16
1	C1	70'	-	-	70'	1500W MZ	10
1	C2	70'	-	-	70'	1500W MZ	10
<b>TOTALS</b>							<b>66</b>
<b>6</b>							

<b>MUSCO</b> Lighting	Name: Saint John Vianney High School Baseball Location: Saint Louis, MO								
<b>MY PROJECT</b>									
<b>GRID SUMMARY</b>	Name: Parcel 11 Spanning: 30.0' Height: -3.9' above Grade								
<b>CONSTANT ILLUMINATION</b>	<p>System Type: Constant Illumination</p> <p>Entire Grid</p> <table> <tr> <td>Scan Average:</td> <td>0.032</td> </tr> <tr> <td>Maximum:</td> <td>0.05</td> </tr> <tr> <td>Minimum:</td> <td>0.02</td> </tr> <tr> <td>No. of Points:</td> <td>12</td> </tr> </table> <p>LMU: 21302121C01</p> <p>Luminaire Type: Green Generation</p> <p>Design Usage Hours: 5,000 hours</p> <p>Design Lumens: 134,000</p> <p>Ang Lamp Tilt Factor: 1.000</p> <p>Nb. of Luminaires: 56</p> <p>Aug KW: 87.58 [95.2 max]</p>	Scan Average:	0.032	Maximum:	0.05	Minimum:	0.02	No. of Points:	12
Scan Average:	0.032								
Maximum:	0.05								
Minimum:	0.02								
No. of Points:	12								

Guaranteed Performance: The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

Field Measurements: Illumination measured in accordance with IESNA RP-6-15 and CIBSE UG4. Individual values may vary. See the Warranty document for details.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical stringing.

Installation Requirements: Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.

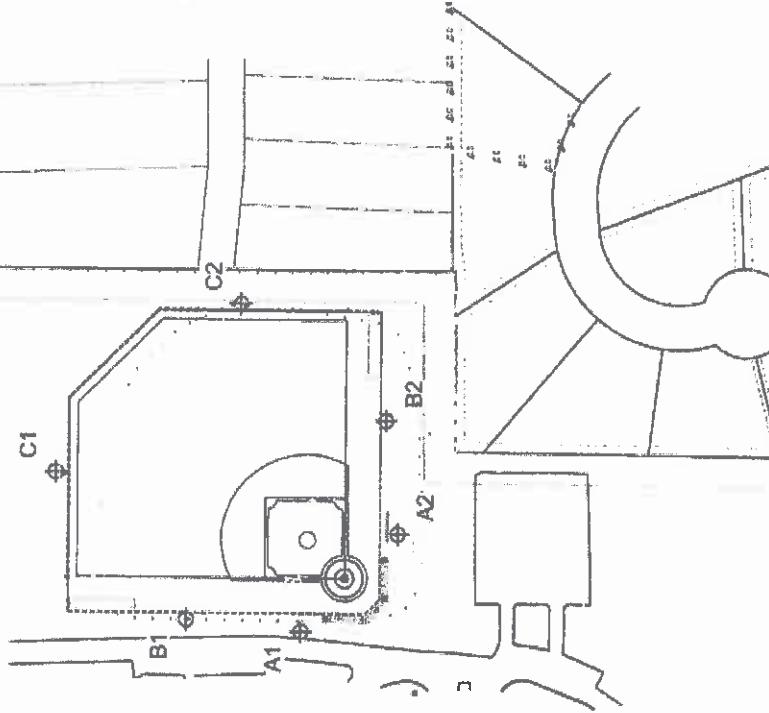
#### ENGINEERED DESIGN

By: Justin Van Soelen  
File # / Date: 1718&2-Dprod-spjR1 12-Oct-16

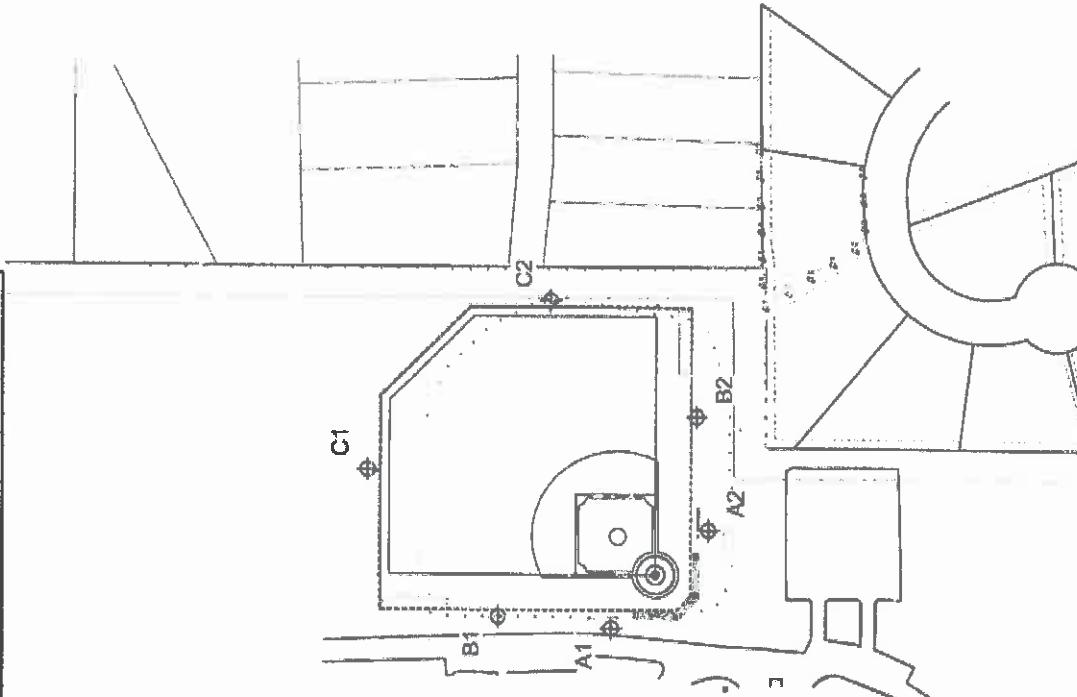
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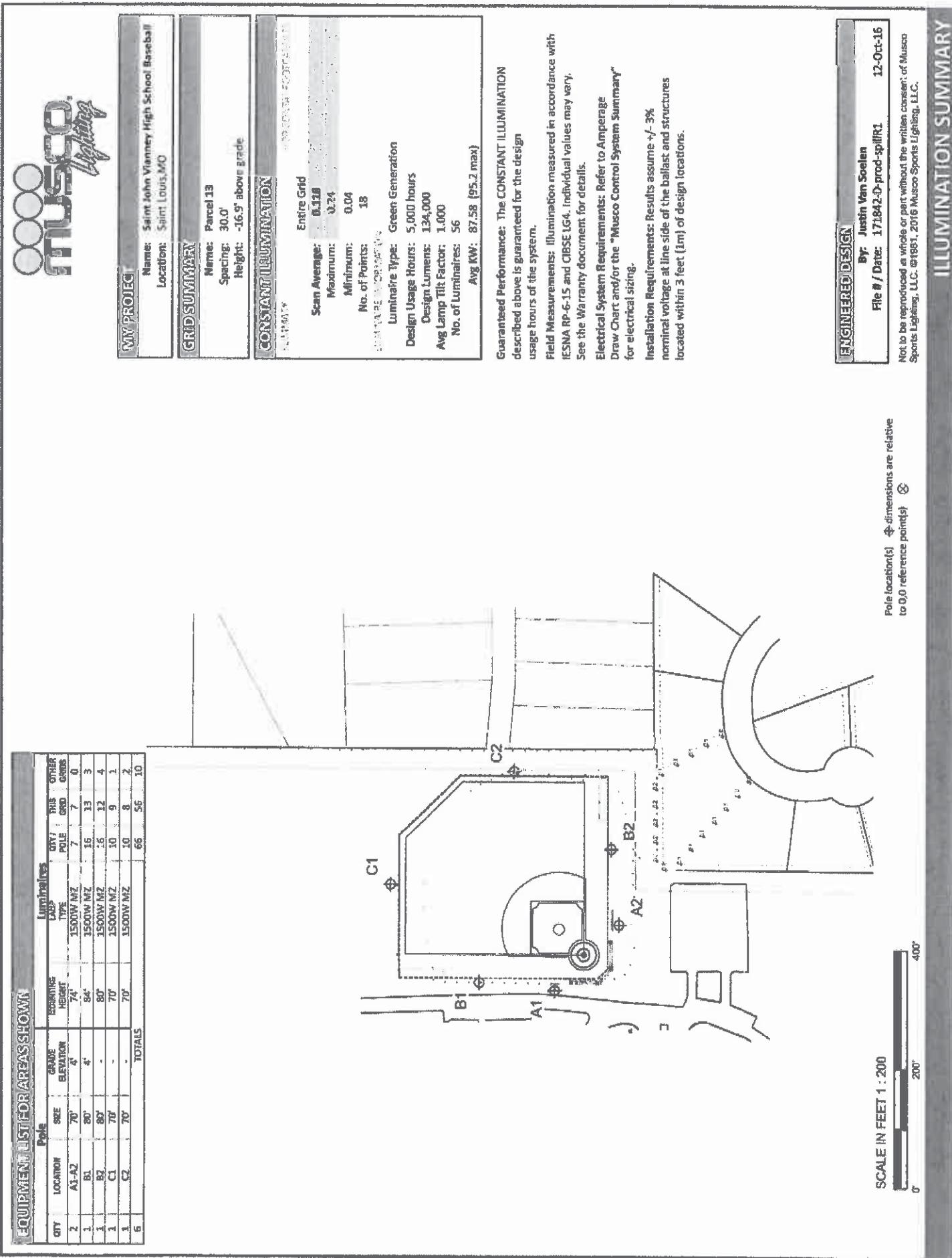
Pole location(s) & dimensions are relative to (0 reference point(s)) ☺

SCALE IN FEET 1 : 200  
200' 400'



#### ILLUMINATION SUMMARY

 <b>MY PROJECT</b> Name: Saint John Vianney High School Baseball Location: Saint Louis MO																																																																																									
<b>GRID SUMMARY</b> Name: Parcel 12 Spacing: 30.0' Height: -10.2' above grade																																																																																									
<b>CONSTANT ILLUMINATION</b> 5.4' x 3.4'																																																																																									
Scan Average: 0.073 Maximum: 0.14 Minimum: 0.03 No. of Points: 14 Luminaires Type: Green Generation Design Usage Hours: 5,000 hours Design Lumens: 134,000 Avg Lamp Tilt Factor: 1.000 No. of Luminaire: 56 Avg (W): 87.58 [95.2 max]																																																																																									
<p><b>Guaranteed Performance:</b> The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.</p> <p><b>Field Measurements:</b> Illumination measured in accordance with IESNA RP-5-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.</p> <p><b>Electrical System Requirements:</b> Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.</p> <p><b>Installation Requirements:</b> Results assume +/- 3% nominal voltage at fine sides of the ballist and structures located within 3 feet (1m) of design locations.</p>																																																																																									
<b>ENGINEERED DESIGN</b> By: Justin Van Soelen File # / Date: 171842-D-prod-spillR1 12-Oct-16																																																																																									
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<b>ILLUMINATION SUMMARY</b>																																																																																									
																																																																																									
<b>EQUIPMENT LIST FOR AREAS SHOWN</b>																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">EQUIP</th> <th rowspan="2">LOC</th> <th rowspan="2">SIZE</th> <th rowspan="2">GRADE</th> <th rowspan="2">ELEVATION</th> <th rowspan="2">ROTATING</th> <th rowspan="2">TYPE</th> <th rowspan="2">POLE</th> <th rowspan="2">OFF</th> <th colspan="2">Luminaire Loop</th> </tr> <tr> <th>OTHER</th> <th>GRID</th> <th>CROSS</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>A1-A2</td> <td>70'</td> <td>4"</td> <td>74"</td> <td>-</td> <td>1500W MZ</td> <td>7</td> <td>7</td> <td>0</td> <td></td> </tr> <tr> <td>1</td> <td>B1</td> <td>80'</td> <td>4"</td> <td>84"</td> <td>-</td> <td>1500W MZ</td> <td>16</td> <td>13</td> <td>3</td> <td></td> </tr> <tr> <td>1</td> <td>B2</td> <td>80'</td> <td>-</td> <td>80"</td> <td>-</td> <td>1500W MZ</td> <td>16</td> <td>12</td> <td>4</td> <td></td> </tr> <tr> <td>1</td> <td>C1</td> <td>70'</td> <td>-</td> <td>70"</td> <td>-</td> <td>1500W MZ</td> <td>10</td> <td>9</td> <td>1</td> <td></td> </tr> <tr> <td>1</td> <td>C2</td> <td>70'</td> <td>-</td> <td>70"</td> <td>-</td> <td>1500W MZ</td> <td>10</td> <td>8</td> <td>2</td> <td></td> </tr> <tr> <td>6</td> <td>TOTALS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>66</td> <td>56</td> <td>10</td> <td></td> </tr> </tbody> </table>										EQUIP	LOC	SIZE	GRADE	ELEVATION	ROTATING	TYPE	POLE	OFF	Luminaire Loop		OTHER	GRID	CROSS	2	A1-A2	70'	4"	74"	-	1500W MZ	7	7	0		1	B1	80'	4"	84"	-	1500W MZ	16	13	3		1	B2	80'	-	80"	-	1500W MZ	16	12	4		1	C1	70'	-	70"	-	1500W MZ	10	9	1		1	C2	70'	-	70"	-	1500W MZ	10	8	2		6	TOTALS						66	56	10	
EQUIP	LOC	SIZE	GRADE	ELEVATION	ROTATING	TYPE	POLE	OFF	Luminaire Loop																																																																																
									OTHER	GRID	CROSS																																																																														
2	A1-A2	70'	4"	74"	-	1500W MZ	7	7	0																																																																																
1	B1	80'	4"	84"	-	1500W MZ	16	13	3																																																																																
1	B2	80'	-	80"	-	1500W MZ	16	12	4																																																																																
1	C1	70'	-	70"	-	1500W MZ	10	9	1																																																																																
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6	TOTALS						66	56	10																																																																																
<b>SCALE IN FEET 1 : 200</b>																																																																																									
																																																																																									



EQUIPMENT LIST FOR AREA(SHOW)									
CITY	POLE	SIZE	GRADE	MOUNTING ELEVATION	LAMP HEIGHT	TYPE	LUMINAIRES	QTY	THIS GRID
							GRID	GRIDS	
2	A1-A2	70'	4'	74"	84"	1500W MZ	7	7	0
1	B1	80'	5'	-	84"	1500W MZ	16	13	3
1	B2	80'	-	-	80"	1500W MZ	16	12	4
1	C1	70'	-	-	70"	1500W MZ	10	9	1
1	C2	70'	-	-	70"	1500W MZ	10	8	2
6	TOTALS						66	56	10



**MY PROJECT**

**GRID SUMMARY**

**CONSTANT ILLUMINATION**

**Name:** Saint John Vianney High School Baseball  
**Location:** Saint Louis, MO

**Name:** Parcel 14  
**Spacing:** 30.0'  
**Height:** -13.4' above Grade

**Entire Grid**

**Scan Average:** 0.055  
**Maximum:** 0.44  
**Minimum:** 0.03  
**No. of Points:** 17

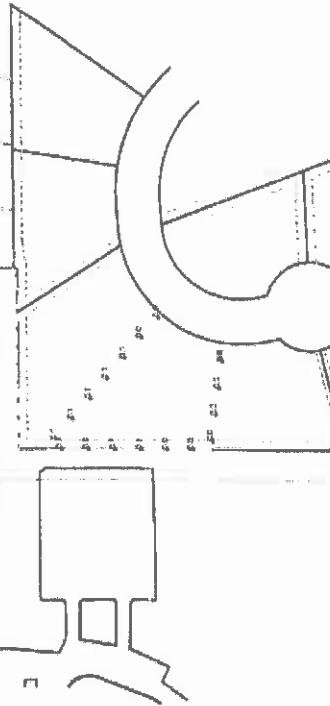
**Luminaire Type:** Green Generation  
**Design Usage Hours:** 5,000 hours  
**Design Lumens:** 134,000  
**Avg Lamp Tilt Factor:** 1.000  
**No. of Luminaires:** 56  
**Avg KW:** 87.58 [95.2 max]

**Guaranteed Performance:** The CONSTANT ILLUMINATION described above is guaranteed for the design usage hours of the system.

**Field Measurements:** Illumination measured in accordance withIESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.



Pole location(s) & dimensions are relative to QD reference point(s) &

SCALE IN FEET 1 : 200  
 0' 200' 400'

**ENGINEERED DESIGN**

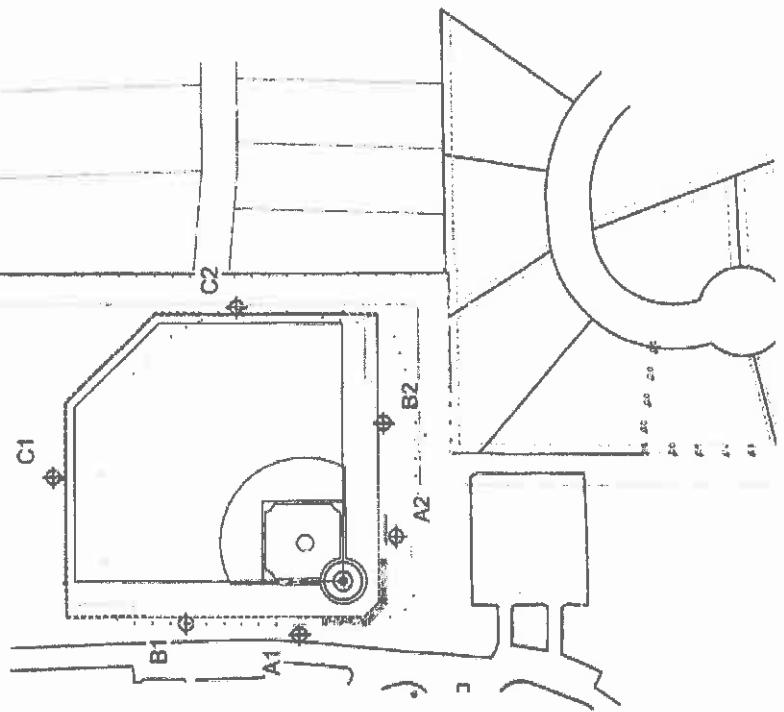
**By:** Justin Van Soden  
**File # / Date:** 171842-D-prod-spillR1 12-Oct-16

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## ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN									
ORY	Pole Locator	Size	Grade	Elevation	Mounting Height	Luminaire Type	Qty	POLE GND	THIS OTHER GND GND CABLES
2	A1-A2	70'	4'	70'	74"	1500W MH	7	7	0
1	B1	80'	4'	-	84"	1500W MH	16	13	3
1	B2	80'	-	-	80"	1500W MH	16	12	4
1	C1	70'	-	-	70"	1500W MH	10	9	1
1	C2	70'	-	-	70"	1500W MH	10	8	2
6	TOTALS						66	56	10

<b>MUSCO</b>	
<b>St. John Vianney High School / Baseball</b>	
Name: Saint John Vianney High School / Baseball	
Location: Saint Louis, MO	
<b>GRID SUMMARY</b>	
Name: Parcel 15	
Spacing: 30.0'	
Height: -11.5' above Grade	
<b>CONSTANT ILLUMINATION</b>	
Entire Grid	
Scan Average:	0.025
Maximum:	0.03
Minimum:	0.02
No. of Points:	9
Luminaire Type: Green Generation	
Design Usage Hours:	5,000 hours
Design Lumens:	134,000
Ang Lamp Tilt Factor:	1.000
No. of Luminaires:	56
Avg KW: 87.58 (95.2 max)	
<b>Guaranteed Performance: The CONSTANT ILLUMINATION</b> described above is guaranteed for the design usage hours of the system.	
<b>Field Measurements:</b> Illumination measured in accordance with IESNA RP-6-15 and CIBSE LG4. Individual values may vary. See the Warranty document for details.	
<b>Electrical System Requirements:</b> Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.	
<b>Installation Requirements:</b> Results assume +/- 3% nominal voltage at line side of the ballast and structures located within 3 feet (1m) of design locations.	



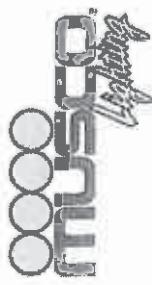
SCALE IN FEET 1:200  
 200'  
 400'

Pole location(s) dimensions are relative  
 to O'D reference point(s) ☺

ENGINEERED DESIGN	
By: Justin Van Soelen	Date: 12/18/2016

File #: 171842-D-prod-spillR1  
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## ILLUMINATION SUMMARY



**MY PROJECT** Name: Saint John Vianney High School Baseball  
Location: Saint Louis, MO

THEATRE

- **INCLUDES:**
    - Baseball!
  - **Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary"
  - **Installation Requirements:** Results assume 1/-' 3% for electrical sizing
  - Nominal voltage at line side of the ballast and structures located within 3 feet (1 m) of classroom locations

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EQUIPMENT LIST FOR AREA SHOWN							
Pole	City	Location	Size	Grade	Latitude		GTY / POLE
					Elevation	Mounting	
2	A1-A2	70'	4'	74°	-	1500W MZ	7
1	B1	80'	4'	84°	-	1500W MZ	16
1	B2	80'	-	80°	-	1500W MZ	16
2	C1-C2	70'	-	70°	-	1500W MZ	10
6							TOTALS 66

BALLAST SPECIFICATIONS <small>(See Ballast Features Section)</small>		LINE ATTACHMENT AND PEDESTAL DRAWINGS				
Single Phase Voltage	208	220	240	277	347	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1500 watt MZ	3.6	8.3	7.5	6.5	5.1	4.7
	ft	ft	ft	ft	ft	ft

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ENGINEERED DESIGN

By: Justin Van Soelen  
File # / Date: 171842-D-prod-spillR1 12-Oct-16

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## EQUIPMENT LAYOUT

